

Pathways to Sustainability: Empowering the Future Today

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Abstract

Growth and development are the overarching goals of many societies. Development happens when social and economic growth is maintained. Economic growth will lead to higher material throughput and the production of hazardous and solid waste. Environmental threats resulting from our material use are not new and are present everywhere. A good lifestyle can set the stage for progress in the social, economic, and environmental spheres by having a major impact on national capitals such as the cultural, economic, and social capitals. Knowing the life-cycle of materials management and keeping an eye on trends in material use will provide us the information we need to figure out how to meet our material needs at reasonable costs to the environment and economy, helping both locally and internationally.

In order to ensure that resources are used more effectively and efficiently with a lower total environmental cost, it is critical that both the federal and state governments work more methodically to empower, promote, and engage with all facets of society. Overall, the use of more environmentally friendly, sustainable materials in products can reduce the production of hazardous waste, safeguard the environment, and increase recycling and reuse rates while using fewer resources.

Keywords: Development, Environmental threats, Materials management, Sustainable materials, Hazardous waste, Recycling and reuse.

Introduction

When natural resources and systems are used sustainably and rationally to meet the demands of the populace, a country is said to be in a state of development. Everything that humanity does or intends to accomplish on Earth has an impact on the environment, the economy, society, and, ultimately, the survival and well-being of the human race. "An evolutionary process in which human capacity increases in terms of problem-solving, purposeful striving, initiating new structures, adapting to continuous change, and creatively attaining new goals" is how development is characterized. In order to maintain socio-economic activity within the boundaries of a finite ecosystem, sustainability refers to the efficient and fair allocation of resources both within and between generations. Economic growth, environmental conservation, and social equity are the three primary concerns of sustainable development. Sustainability in the economy, society, and environment are the three pillars of sustainable development. Sustainable development, said simply, is development that satisfies current demands without jeopardizing the ability of future generations to satisfy their own. In the past, the most significant indicators of sustainable development have been social, economic, and environmental advancements. These elements are closely related to one another.

- ❖ Economic: A sustainable economy reduces economic imbalances while increasing productivity and providing the public with better, more valuable services.
- ❖ Society: The characteristics of a sustainable society include gender equality, political stability, security, justice, and helpful social services.
- ❖ Environment: a sustainable environment encourages the preservation and upkeep of resources as well as the avoidance of resource waste.

All three of these "life style" components are impacted by excellent content. A nation's lifestyle is determined by its people and cultural traits. A person's life style refers to the collection of behaviors that they exhibit in various social, psychological, physical, and economic contexts as individuals, families, and communities. A person's behaviour, beliefs, and communications all contribute to their life style, which consists of unique yet obvious methods of living. Through its effects on national capitals, a lifestyle can contribute to sustainable development. Preserving and protecting the nation's cultural capital—Antiquities—economic capital—Oil reserves, precious metals, mines—social and human capital—Family, young people, scientists, and researchers—ethics—

Conscientious work, responsibility—environmental capital—Industrial machinery, materials, and buildings—are all vital to sustainable development. Paying attention to lifestyle is an obvious approach to preserve and protect national capitals. Cultural capital is a component that both influences and shapes lifestyle. For instance, governors support a lifestyle that disregards the preservation of cultural heritage when citizens' sense of national identity wanes. The antiques, galleries, and museums in this civilization will all be destroyed. Economic capitals are significantly influenced by lifestyle choices. For example, materialism as an insufficient way of living is a global issue. Every culture waste time, money, and energy due to consumerism. Despite being a politically endorsed approach, consumerism contributes to the wastage of financial resources. A bad lifestyle puts social and human capital at risk. When human values are replaced by anti-values due to an inadequate lifestyle, social networks are disrupted. Unhealthy lifestyle choices provide significant obstacles to both physical and mental health as they drive progress and growth. The two biggest issues facing society today are the promotion of immoral lifestyles and the decline of moral principles. For instance, when a family is not the primary source of a child's work ethics, it might result in irresponsible behaviour, deceit, wastefulness, and other negative traits. To accomplish sustainable growth, society must learn about accountability and work ethics. Thanks to education, this is achievable. Biological capitals are destroyed by humans who lead unhealthy lifestyles in relation to their environment (tainted water, soil, and climate, careless hunting, tree-cutting etc.). Biologists employ the notion of a "green lifestyle," which demonstrates how lifestyle choices have a major influence on environmental capital.

Objectives for the sustainable development

1. Eliminate poverty worldwide in all of its manifestations.
2. Put an end to poverty, provide food security, boost nutrition, and advance sustainable agriculture
3. Assure everyone, regardless of age, has a healthy life and fosters wellbeing.
4. Make sure that everyone has access to high-quality, inclusive education, and encourage lifelong learning opportunities.
5. Realize gender parity and give all women and girls more power.

6. Guarantee that everyone has access to and sustainable management of water and sanitation
7. Guarantee that everyone has access to modern, cheap, dependable, and sustainable energy.
8. Encourage full and productive employment, decent work for all, and consistent, inclusive, and sustainable economic growth.
9. Develop innovative ideas, encourage inclusive and sustainable industrialization, and construct robust infrastructure.
10. Lessen disparities both inside and across nations
11. Create inclusive, secure, resilient, and sustainable cities and human settlements
12. Assure patterns of production and consumption that are sustainable.

Global Obstacles to Sustainable Development

❖ **Environmental pollution:** Pollution is now a major concern in today's world. Because of the expanding population, deforestation, industrial waste, and the improper exploitation of natural resources, pollution levels are rising. The process of combining compounds that are toxic to living creatures with air, water, or food is known as pollution. The globe is now facing a global pollution challenge, not just India. Pollution has an impact on all living creatures, not just people. The issue of pollution is getting worse every day as a result of direct mixing of industrial waste with the air, water, and land. In spite of this, it appears that individuals do not take pollution and its effects seriously. This may cause future generations a great deal of suffering. The health of people is greatly threatened by pollution. In India, metropolitan regions have greater levels of pollution than rural ones. Urban regions are seeing an increase in pollution because of industry, a high population, and a high car count.

In short, environmental pollution poses a serious challenge to sustainable development. Environmental pollution has created a crisis for the environment of the whole world.

❖ **Greenhouse effect:** The earth's atmosphere warms as a result of the combustion of fossil fuels, which increases the amount of carbon dioxide gas in the atmosphere. The greenhouse effect is the term for this. Some scientists predict that if the Earth's

atmosphere keeps becoming hotter, the temperature will climb by 2030. The temperature of Earth will increase from 15 C to 4.5 C. Global warming will negatively impact mankind by making the summer longer and the winter shorter. It will be detrimental to the animals and flora as well. The water cycle will suffer as a result of global warming. More ice will melt as Earth's temperature rises, and more melted ice means more water in the rivers, which means the surrounding land will be drowned. Human life will be impacted by coastal regions being submerged by rising river and sea levels.

- ❖ Ozone depletion: The stratosphere of the atmosphere has an ozone gas layer that blocks ultraviolet radiation, which is a type of damaging solar radiation. Life on Earth is absorbed and maintained by it. But as of right now, human life is in danger due to ozone layer degradation. The primary cause of the ozone layer's thinning is the rising usage of chlorofluorocarbons in refrigerators. The ozone layer can endanger not just people but also animals, birds, plants, and other living things.
- ❖ Acid rain: This phenomenon also encourages contamination of the environment. Fossil fuel burning releases oxides of nitrogen and sulphur into the atmosphere. These gases react with one another when their oxides come into contact with sunshine and atmospheric moisture. They combine to create acid. Nitric acid, also known as saline acid, is created when nitrogen oxides combine with sulfuric oxides to make sulfuric acid, which is sulfuric acid. Following this, they fall to the earth as acid rain, which can also be in the form of fog, snow, or rain. In addition to killing fish in rivers and streams, this rain hinders the growth of some other crops. For this reason, plants and wildlife are at risk from this acid rain.
- ❖ Unnatural and Excessive exploitation of Natural Resources: Another key obstacle to sustainable development is the indiscriminate exploitation of natural resources in the rush for economic growth. Developed nations have relied on natural resources for their industrial and economic growth throughout the past century. Humans today seek to further their own development by making increasing use of nature. Because of human hunger and the desire to advance economically, nature is suffering today. Due to the overuse and exploitation of natural resources, people are striving for ever-higher levels of economic growth. The largest obstacle to sustainable progress is human greed. The excessive use of human labour, water, land, wood, animals, the life

cycle, fuel, food, and other resources by people is endangering the planet's ecology and life system as a whole.

- ❖ Political leaders' immature, self-centred, and limited vision: Politicians, particularly those in developing nations, have an immature, self-centred, and limited vision for sustainable development. This strategy has led to the belief in aphorism among politicians in these nations. Their policies have specific, rather than broad, goals. Instead, then focusing on the development of the average guy, these leaders would rather take advantage of him. They also don't seem to be really committed. For this reason, these legislators are unable to pass more effective laws that would address the obstacles to sustainable development in these nations.

How to get over obstacles in the way of sustainable development:

The obstacles to sustainable development may be addressed by creating non-polluting and renewable energy sources (waste and recycling) and by using renewable resources sparingly, which promote environmental awareness and education.

1. Population Control: The population growth poses the biggest threat to sustainable development. To keep the quickly expanding population under control, certain tangible steps must be taken. Management or some fundamental policies connected to population control should be created in order to sustain the pace of population growth, particularly in emerging nations.
2. Environmental information and education: Spreading awareness of important issues like environmental pollution may also be resolved via environmental education and information. Developing nations lack proper environmental education and knowledge due to poverty and illiteracy. Ignorance like this has led to issues like deforestation, rising pesticide usage, air and water pollution, and more. Pollution may be largely avoided by educating and informing the people about the need of environmental protection. at light of this, environmental education needs to become required at all universities and schools. Furthermore, the relevant authorities should provide as much information as possible at the village level.
3. Requirements for environmental law modifications: Requirements for environmental law modifications can also be very important in resolving the problem of environmental contamination. To satisfy the needs of the modern world, each of these

regulations needs to be revised and updated. These laws also need to be applied with extreme caution and adherence, especially in developing countries.

4. **Circular Economy:** Sustainable development depends on the circular economy paradigm. It won't result in waste in any kind of goods. As the garbage generated by one business will be used as the raw material for another. It goes without saying that these sectors will be more decentralized and energy-self-sufficient.
5. **Recycling of garbage:** Recycling is necessary when producing waste in small quantities. To tackle these issues, the collective effort of all people is required. Waste recycling is a requirement for every person. Non-food goods can be returned to the appropriate factory to be reused, including wastepaper, empty matches, fuse bulbs, polythene plastic, disposable materials, and all forms of packaging. We can solve issues like land contamination in this way.
6. **Unconventional energy sources:** The two best ways to satisfy the fundamental energy demands are hydropower and solar energy. However, producing modest quantities of decentralized electricity and connecting it to the grid as necessary is a more sustainable approach than building massive dams. Essentially, adopting a lifestyle that uses less energy is a significant shift.
7. **Resource conservation:** utilize non-renewable resources as little as possible, and utilize non-renewable energy sources sparingly. For instance, renewable resources like coal, diesel, gasoline, etc. prevent them from being replenished. Furthermore, using these gadgets contributes to pollution. As a result, caution should be exercised when using these energy sources.

Conclusion

Mahatma Gandhi, who understood the value of natural resources, once remarked that nature could satisfy human wants but not greed. To end poverty, lessen environmental pollution, alter lifestyles, enhance health, and coexist with nature, the notion of sustainable development must be created in the context of India. But there is now concern that human-caused development—particularly economic development—may bring about the extinction of humanity. In order to ensure that resources are used more effectively and efficiently with a lower total environmental cost, it is critical that both the federal and state governments work more methodically to empower, promote, and engage with all facets of society.

All things considered, employing more sustainable, ecologically friendly materials in goods may lower the amount of hazardous waste produced, protect the environment, and boost recycling and reuse rates all while consuming fewer resources.

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